Chapter III

THE NATURAL RESOURCE BASE

INTRODUCTION

The natural resource base of Waukesha County is one of the most important factors influencing the development potential of the County. It is the natural resource base which makes the County an attractive location for residential, commercial, and industrial development. The natural resource base has great economic as well as recreational and aesthetic value. In order to preserve and protect this important asset, future urban development in Waukesha County must be carefully adjusted to the ability of the natural resource base to support various forms of urban and rural development without deterioration or destruction of that underlying and sustaining base.

Protection of the natural resource base is also essential to the maintenance of biological diversity. This term refers to the relative abundance of each of a broad cross-section of different types of ecosystems, organisms, and the genetic composition that exist in any particular region. All species exist and evolve in an ecological context that is in response to changes in their environment. The raw material for evolution is genetic variability, which enables species to adapt and change. Through time, a large amount of genetic diversity has accumulated in the Region's plant and animal species so that differences exist between individuals and populations of the same species. The greater the genetic diversity, the more likely that at least some individuals can cope with environmental stress. This is essential for the long-term viability of species, particularly in urbanizing environments such as Waukesha County. Maintenance of a high level of biological diversity which in turn helps to provide for genetic variability is greatly facilitated through preservation of the natural resource base which accommodates a range of environmental conditions to assure species survival.

The natural resource base is susceptible to irreversible damage through inappropriate land use, transportation, and public facility development, especially in Waukesha County, where a considerable proportion of the population resides in close proximity to environmentally sensitive inland lakes and waterways. Without sufficient understanding and recognition of the character and importance of the various elements of the natural resource base, human use and alteration of the natural environment proceeds at the risk of excessive costs in terms of both monetary expenditures and environmental degradation. A sound and meaningful County planning effort must therefore acknowledge that natural resources are limited, and that urban development should be properly adjusted to the natural resource base so that serious and costly environmental problems can be avoided.

This chapter presents an inventory and analysis of the natural resource base of Waukesha County. Included is descriptive information pertaining to climate, air quality, physiography, bedrock geology, topography, soils, groundwater resources, surface-water resources, wetlands, woodlands, prairies, and wildlife habitat. This chapter also presents information concerning natural resource base related elements, including major park and open space sites, historic sites, and natural area sites. The chapter concludes with a discussion of environmental corridors within the County.

CLIMATE

Its midcontinental location gives Waukesha County a continental climate which spans four seasons, one season succeeding the other through varying time periods of unsteady transition. Summers, generally the months of June, July, and August, are relatively warm, with occasional periods of hot, humid weather and sporadic periods of cool weather. The cold winter, accentuated by prevailing frigid northwesterly winds, generally spans the months of December, January, and February, but may in some years include parts of November and March. Autumn and spring in the County are transitional times of the year between the dominant seasons and usually periods of widely varying weather conditions. Temperatures are extremely varied, and long periods of precipitation are common in autumn and spring. Some of the more pronounced weather events include tornadoes and major snowmelt occurrences.